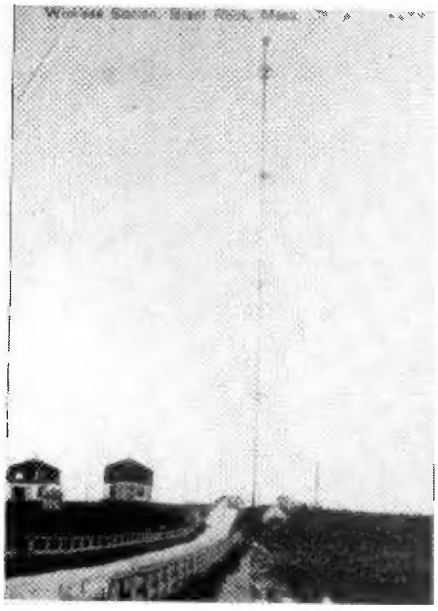

THE GHOST OF REGINALD FESSENDEN

By Everett L. Slosman

WE just left Hallowe'en headed in to the Christmas season, so we have for you a Christmas ghost story. As you might guess, it's not your usual seasonal sentimentality. It's a story about voices and music coming from radios that previously carried only dits and dahs: an event that took place 87 Christmas Eves ago.

The principal star of the show was Reginald A. Fessenden (pronounced FESS-end-in), and his audience was made up of United Fruit Company wireless operators standing a cold watch in the Atlantic.

In that broadcast, Fessenden accomplished something few scientists believed possible. His broadcast reached from Massachusetts' South shore to receivers in far away Guantanamo Bay, Cuba. A lone wolf inventor proved audio could be transmitted, and left many experts, including Edison, speechless.

Though Fessenden invented the heterodyne circuit, history awards the laurels to Marconi, DeForest, and Armstrong. The Canadian-born Fessenden originated broadcasting as we know it today, yet Marconi has been dubbed "the father of radio" by less knowledgeable historians.

Fessenden's erratic behavior and public image may have contributed to this.

Take station location. When wireless seemed like magic to the public, Marconi isolated his operations on Cape Cod, an hour's horseback ride from the nearest town. Only his employees witnessed the inevitable failures.

Fessenden built on Blackman's Point at the edge of Brant Rock, MA, a summer playground for upper middle class families and a favorite fall hunting grounds for sea duck or scooter. Failed experiments were public knowledge.

Brant Rock is part of Marshfield, a community that still boasts a considerable number of gingerbread houses owned by residents with an attitude. Into this puritanical setting came Fessenden, a six-foot- plus, 300 pound bundle of motion sporting a black Inverness Cape. Heads swiveled and horses reared as he double timed down the one main street, his sandy beard unfurled in all directions.

Residents didn't appreciate his 420 foot antenna made from smokestack pipe. Nor did they appreciate that the tower was hollow, enabling workers to climb to the top and gain a spectacular view of their back yards.

During this same time, Fessenden erected a similar structure at Machrihanash, Mull of Kintyre, Scotland, where conservative locals arched eyebrows and moved their sheep to other pastures.

Born 1866 in East Bolton, Quebec, to an impoverished Anglican minister, he was also the grandson of an indigent inventor. He spent his formative years in genteel poverty (a Victorian euphemism for flat broke).

Blessed with a razor-sharp mind, academic ability, not money, took him to Bishop's College, Lennoxville. Here he taught math, French, and Greek by day and studied for a degree at night.

However, before graduating, Fessenden took a teaching job in Bermuda where he met and fell madly in love with Helen Trott, a wealthy planter's daughter.

He moved on to New York City pursuing his fortune, and with hard work, good luck, and lot of chutzpah landed a job at Edison Laboratories. Here, he accomplished two things: gained a reputation for non-conventional thinking and married Helen. Shortly after the wedding, Edison's company went bankrupt.

Over the years, a pattern emerged. Fessenden pioneered a concept; others capitalized on it. Twice, Andrew Carnegie, the steel baron, offered Fessenden a partnership and twice Fessenden turned the aging industrialist down.

Eventually, Pittsburgh University made Fessenden a professor of electrical engineering, a job he quit to build an experimental Weather Bureau station at Cobbs Island, VA.

By 1900, Fessenden's audio transmission experiments shifted into high gear and he almost beat Marconi to the first trans-Atlantic transmission. That December, he transmitted an audio signal between two 50-foot towers spaced a mile apart.

After patenting the heterodyne circuit in 1905, Fessenden joined two Pittsburgh millionaires, Thomas Given and Hay Walker, Jr., in forming the National Electric Signaling Company.

Construction began on both Brant Rock and Machrihanash. When they were finished, he built a small test station in Plymouth, Massachusetts, 11 miles away.

A year later, an assistant in Scotland telegraphed, "At four o'clock in the morning, I was listening for telegraphic signals from Brant Rock when to my astonishment, I heard the voice of

Aerial view of the station site as it looks today. The tower is in the green patch of woods. Photo taken from Blackman's ham tower. Above: Reproduction of an old post card. The two houses on the left still stand.

Blackman examining the base of Fessenden's tower. The swivel enabled the tower to move with the wind, keeping the weather strains from snapping the guy wires.

Mr. Stein telling the operators at Plymouth how to run the dynamos." Fessenden was ecstatic.

However, before National Electric Signaling could hold a public demonstration, Machrihanash's tower went down in a storm. Never one to let a little adversity spoil his mood, Fessenden sent messages to all the United Fruit ships at sea and told them to listen around midnight Christmas Eve.

Inadvertently, Marconi Wireless America had set the stage for a captive audience. They had a firm policy against handling traffic from vessels not equipped with Marconi's radios. United Fruit Company's vessels used Fessenden's receivers. So, shipboard operators were primed for National Electric transmissions. Ironically, 14 years later United Fruit became a key player in the RCA consortium that bought out Marconi's American wireless interests.

Fessenden opened the program by telling listeners what they would hear. Handel's "Largo," became the first record ever aired and the Edison windup phonograph that played it became the first studio turntable.

Live talent took over as Fessenden played Gounod's "Oh Holy Night" on his violin and even sang the last verse when the singer got "mike fright."

Luke's traditional Bible reading, "Glory to God in the highest and peace on earth to men of goodwill," followed. Finally, Fessenden wished the audience a Merry Christmas and promised another broadcast New Years Eve.

That sub-zero windy midnight, wireless moved from Marconi's singular point-to-point transmissions into Radio: the mass communications medium.

Though the broadcast drew raves, a series of torts and lawsuits hassled Fessenden in an endless stream of litigation. For the next two decades, the professor spend more time in court than in the laboratory.

Fessenden left National in 1911. Three years later, the station closed and was dismantled. Blackman's Point returned to a quiet resort and Brant Rock resumed its uneventful existence.

Only the tower base and a concrete anchor mark the site. MTV-bred children romp on these artifacts oblivious to the history behind the crumbling structure.

Two of the Point's three remaining homes once served as headquarters for National Electric Signaling, and several members of the Blackman family still live there. One is an amateur radio operator (see sidebar).

During Fessenden's lifetime, he produced over 500 inventions including a radio compass, fathometer, underwater signaling system, submarine detector, turbo-electric battleship drive, an anti-aircraft tracking device, and an acoustical system for musical instruments.

Fessenden's scientific accomplishments were acknowledged by the Radio Engineers Medal of Honor and a John Scott Medal for pioneering in radio. For contributions to marine safety, he received the Scientific American Medal. Fessenden died in Bermuda in 1932.

And now, the "ghost" part of the story.

A commercial radio station, WATD-FM, operates from facilities approximately five miles from Blackman's Point on 95.9 MHz. On Christmas Eve, they move a mobile unit to Blackman's

The Tradition Continues

When Dana Blackman, a computer numerical control machinist and ham radio operator (N1EWA), used a family souvenir for his QSL card, he didn't give Fessenden's activities much thought. After all, Dana grew up on stories about the stogie-smoking genius who once leased the family's property for the National Electric Signaling Company.

It wasn't until Dana installed his own 85 foot ham tower that he realized Fessenden represented more than another family story taken from a history dating back to Pilgrims at Plymouth Rock.

A friend, Dave Reilly (AA1A)—considered the "Fessenden Authority in these parts"—set up a special events station at Blackman's Point several years ago and invited the non-hamming Dana to sit in. That started a love affair with hamming.

Dana had no trouble with code; "I learned it in the Boy Scouts and it just went from there." Anxious to get on two meters, he took the technician's test directly.

Now, he hangs out there on his way to work and during at-home evenings. Some Saturdays, he enjoys joining other two meter buffs for an informal breakfast at Marshfield's Masonic Temple. This adds an enjoyable face-to-voice dimension.

Dana Blackman at the controls of N1EWA.

Dana Blackman's QSL taken from an old post card showing Fessenden's station.

His shack, a room on the second floor, houses an ICOM 751A world band rig, a 2 meter Kenwood all-mode, and a lot of peripheral equipment. "I go to flea markets and bump into something I just can't do without." Yet, the room is surprisingly neat.

Dana often visits the Christmas Eve broadcast. "I watch 'em do their thing, play the violin, sing songs, and drink some refreshment. A couple of times the wind's really been blowing and it got kinda chilly down there."

When he drops to 40 or 80 meters, Dana enjoys CW and will occasionally CQ. However, he is not a DXer or contest buff; preferring friendly conversation.

Dana supports special events stations like the one run by Whitey (K1VV) on Fessenden's birthday and there is talk among the two meter crowd about a 90th anniversary station from three years from now.

If you're looking for a contact, patience and some luck may catch Dana away from his activities; working out at the health club, riding a bicycle for exercise, fishing, and remodeling his hundred-plus year old house.

Yet, Dana wants to raise his code speed to 13 wpm. His special nemesis? The word 'antenna' in code. Give you any ideas?

'Tis the Season to go Scanning

by Allen Cole, N4JRI

'Twas the month before Christmas, and all through the town,
Yours Truly had the mall freqs and tones all nailed down.
Leaving them no escape—except frequency hopping,
I felt peaceful and in the right mood to go "shopping."

Now about that completeness, I'll make this confession.
My nailed-down-tight town left a single obsession.
One mall had slipped by, and it was my fervent wish,
To nail down this varmint that got past the fiche.

I was frisked before leaving, by my wife (what a doubter)
Who proceeded to impound my frequency counter.
She cut me off short as I started to whine ...
"You've done enough scanning; we're *shopping* this time!"

I pouted and sulked as my wife drove the car.
I thrive being henpecked, but this goes too far!
With my counter and notebook left so far behind,
I felt as if naked—and losing my mind.

Then all of a sudden I felt in my pocket ...
My trusted old friend! (I went off like a rocket)
When the wife blithely put my toys back on the shelf,
She'd forgotten to check for the scanner itself!

I walked in the mall feeling rapture untold,
But reality hit, and my blood just ran cold.
I had my companion, and could fire it up soon,
But what good's a scanner—knowing not where to tune?

I took a wild guess, one-five-four point six-oh.
They love it in Jobcomms—the green dot, y'know.
Then I cranked up the volume, a major mistake,
And a loud voice boomed out, "Want some *fries* with that shake?"

The world became blurry and time seemed to stop.
The crowd was just staring. You could hear a pin drop.
I smiled rather weakly and felt like a freak,
Who needed an earphone and better technique.

I ran to the bookstore and hid in the stacks,
where a voice said, "Your methods have gotten too lax."
"These books, fiche, and counters have softened your brain.
"Try the scanner's *instructions."* (still in cellophane).

"The scriptures are ancient, but their wisdom applies,
"When you're trying to catch these security guys.
"The manual states (like a strict moral code)
"When you don't know the channel, you use the 'search' mode."

The SEARCH MODE! Now who'd ever heard such a thing?
It did make good sense, though, and had a nice ring.
I stalked out the door with a spring in my walking,
(As the clerk came to ask, to just whom was I talking?)

I went straight to work with my Bearcat unholstered.
The guard had no chance with my confidence bolstered.
I'd check his antenna and find out which band,
I should search through to give me the uppermost hand.

I hoped it was VHF-high because, heck,
It'd leave me a mere sixteen channels to check.[1]
There would've been more had it been a small town,
Where they use taxi channels 'cause there's no cabs around.[2]

Or maybe a Radius; I'd like that a lot.
I'd fake a quick seizure, looking up for the dot.[3]
But the brick on the belt of this man, old and chubby,
Was an HT-440 with a UHF stubbie.

A UHF search can be one for the annals,
But a five-watt HT could mean no two-watt channels.[4]
I hoped against hope that there'd be a repeater,
'Cause skipping the 'mobile side'[5] makes things much neater.

I tried the itinerants,[6] they're good for the soul,
And all of the ones marked for "local control."[7]
I followed the guard (at a distance discreet),
He talked. I heard nothing. Oh, bitter defeat.

But then I remembered the bookstore advice,
And punched up the search mode without thinking twice.
The squelch opened just above four sixty-one,
"There's some creep with a scanner, better pull out your gun."

Just then someone grabbed me! (My wife heard the call)
And angrily dragged me right out of the mall.
The guard walked behind us, keying up on his mic.
And the clicking he heard just confirmed my good strike.

Some years have gone by, but they won't forget me.
The mall's on a trunk now, and has DVP,
And I've had much less grief from my wife's prudish manner.
We divorced just last year—and she got the scanner.

NOTE 1: 151. 625-151. 955 (30 kHz steps) , 154. 515, 154. 54, 154. 57, 154.60
NOTE 2: 152.30-152.42, 157.56-157.68 (15 kHz steps) Available to Business Radio Service outside Standard Metropolitan Statistical Areas (SMAS) of 50,000 or more.
NOTE 3: Jobcomm/Radius color code: 151.625 (red), 154.57 (blue), 154.60 (green) , 462.575 (white) , 462.625 (black) , 462.675 (orange), 464.50 (brown), 464.550 (yellow)
NOTE 4: 457.525-457.600, 467.750-467.925, and various 12.5 kHz "splinter" frequencies
NOTE 5: UHF "Mobile only" freqs (normally used as repeater inputs) can also be used simplex: 460.650-467.000
NOTE 6: 35.04, 151.625, 464.500, 464.550, 469.500, 469.500, (853.4875?)
NOTE 7: "Local control" frequencies are generally used at a particular location (as opposed to citywide) 464 & 469.325, .375, .425, .475, .525, .575, .675, .775, .825, .875, .925, & .975

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Point, where, in foreshortened New England daylight, they power up to recreate the original broadcast.

Edward Perry Jr., WATD-FM's founder and president, describes himself as "genetically inclined toward broadcasting," which may explain why someone who never heard of Fessenden before coming to Marshfield is now the scientist's most vocal advocate.

Only a true Fessenden soul-mate would brave ice-cube laden winds to sing "O Holy Night" accompanied by a talented, shivering violinist playing with verve and frostbitten fingers.

DXing a Class A FM in December isn't easy. Yet, FM buffs claim some surprising winter catches. To make things a little easier, their sister station, Yarmouth's WATB-FM (103.9 MHz) will simulcast the recreation. Broadcast time will be sometime mid-afternoon EST.

This year, Perry may add a remote from the old WCC receiver site in Chatham or Marconi's original location in South Wellfleet. However, plans were not completed when this article was written. Look for last minute updates on the Grove BBS message section.

Now, for the part that pleases DXers. Perry will QSL reception reports. Listeners who write in support of preserving Fessenden's accomplishments will also receive a special QSL. Letters and reports should be sent to Reginald Fessenden, WATD-FM, 130 Enterprise Drive, Marshfield, MA 02050.

If you're spending Christmas Eve near Brant Rock, WATD-FM can always use another singer willing to brave frostbite. That will please the ghost of Reginald Fessenden very much.

MT